

LITTLE BLUE BOOK NO. 1279
Edited by E. Haldeman-Julius

Side-Show Tricks Explained

**Sword Swallowing, Fire Eating, Feats of
Strength, Juggling Secrets, Etc.**

Hereward Carrington

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**HALDEMAN-JULIUS PUBLICATIONS
GIRARD, KANSAS**

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PRINTED IN THE UNITED STATES OF AMERICA

SIDE-SHOW TRICKS EXPLAINED

INTRODUCTORY

In this Little Blue Book I have described and explained most of the tricks which are to be seen in the typical Side-Show, whether in the circus or elsewhere. The historical side of this subject has already been dealt with quite fully by Houdini, in his book "Miracle Mongers and Their Methods," but very few actual *explanations* are therein given, despite the title and I feel assured that the present little book covers the subject in a more complete manner than any other single volume which has so far appeared. Animal Tricks, and the tricks of professional gamblers, require separate treatment, and these will doubtless be dealt with in other Little Blue Books. For the rest, this book constitutes an all-round exposition, and I trust that the reader may find both instruction and edification therein.

SIDE-SHOW FREAKS

Who does not remember visiting the dear old "Side-Show," as a boy, where were exhibited the oddities—the "freaks," the thin man and the fat woman, the Giant and the Dwarf, Tom Thumb, Jo Jo, the dog-faced boy, the "bearded lady," Jumbo, Gumbo, the Siamese Twins, and a host of others! One wonders at times what has become of all these old "Freaks," now that the Side-Show is practically a thing of the past. My curiosity prompting me to make some in-

vestigations in this direction, I was rewarded with the following results:

When the last of the "Wild Men of Borneo" died at Waltham, Mass.,—which was about as close as he had ever been to Borneo,—there was genuine interest shown wherever the obituary of the strange little man was read.

His name had become a household word, when he and his companion freak were traveling, making small boys feel creepy each afternoon and evening, and no other specimens of strange men have ever quite taken the place of these two semi-dwarfs, with their long gray whiskers and fierce looks.

Plenty of imitators were found and exhibited, but the originals remained in a class by themselves, as long as they cared to remain in the business and stand chained during each performance while a fluent lecturer told of the tremendous effort it had been to capture them and how difficult it was to keep them in captivity.

One of this well-remembered pair, "Waino," died several years ago; "Plutano" lived until quite recently.

It is said they were from the wilds of Ohio, not from Borneo, but that is one of the secrets of the showman's profession.

Chauncey Morian, Barnum's fat man, died some years ago at Elwood, Ind., and his wife arranged the funeral for five o'clock in the morning to keep the curious away. Morian was forty-three years old, and when he joined a circus in 1899 he weighed 853 pounds. His first wife weighed 553 pounds. Morian went into

business at Elwood, after he ceased exhibiting himself.

Jumbo, the biggest elephant ever in captivity, which died trying to save a baby elephant from a railroad engine, reposes (stuffed) in the natural history collection of Tufts College.

Colonel Frank P. Stone, of Boston, who has been "next friend" to all the best freaks, declares Gumbo is also at Tufts.

"Gumbo," said Colonel Stone, "was the biggest orang-outang in the world. She was owned by the King of Portugal. I leased her for a year for \$2,000 and she died the very day the contract was up. Gumbo and the contract expired together, so to speak. The King of Portugal had no use for a dead 'rang, so I had Gumbo stuffed and gave her to Tufts College."

Jo Jo, the dog-faced boy, went back to that dear Burmah, it seems. Jo Jo—or Joseph Joseph, to be formal—was one of the hairy Burmese. He made his début in America several years ago, and returned to his hairy relatives four years later. He was a "good sport" while here, and his bark was worse than his bite.

Colonel Stone said that Chang, the Chinese, was the tallest of all giants. Chang was 8 feet, 4 inches, in his socks. He died many years ago.

The original tattooed man was Captain Constantinus. He was a Greek. He was captured by pirates, who tattooed every inch of him. He was an ugly customer.

Fanny Mills, the girl with the big feet, came from Chicago. Her feet were a yard long and

were beautifully formed. Fanny retired many years ago; she died, three years afterwards.

Chicago furnished at least one more museum freak,—in addition to the others not yet in captivity. This one was Annie Irwin, the tallest woman. Annie was 8 feet, 3 inches tall; she retired on her earnings, and went back to Chicago to live.

The most famous of all midgets, "Tom Thumb," has been dead for many years. His widow married another midget, and for some time lived in Meriden, Conn. Commodore Nutt, Tom Thumb's coachman, has also been dead for many years.

Crou, the original "missing link," was a Miss, though not altogether missing, since for a long time she played Western side-show stands with a circus.

Annie Jones, the finest "bearded woman" ever seen, also followed the circus game. Her beard was eighteen inches long.

"Ike" Sprague, the original living skeleton, is dead, and a medical school got his body for \$500. "Ike" was 5 feet, 5 inches tall, and weighed sixty-five pounds. He could not hold up his body on his legs and had to be carried.

Jonathan Bass, the original ossified man, was a Bridgeport, Conn., bridge builder. He fell ill and gradually ossified. He lived for five years, and in that time made enough money as a museum freak to leave his relatives well-to-do.

* * *

It may be of interest to note here, incidentally, that the cause of "gigantism" is now

known to science—as well as the causes of midgets and dwarfs. Within the human brain there is a tiny gland known as the pituitary, having remarkable qualities. The gland is divided into two parts. If this little gland be unduly irritated or stimulated—by a growth within the brain, for instance—frightful deformities of all the bones take place, particularly of the face, hands and feet. The latter grow enormous, and if the changes begin early in life, the whole body is affected, so that we have a “giant,” who grows to seven or eight feet in height. Thus the giant is no longer considered a paragon of strength, as in the fairy tales. He is regarded as a pathological specimen, whose pituitary body is diseased. On the other hand, if this gland wastes or atrophies, the body does not grow to its proper dimensions, and then we have a “dwarf.” This is the cause of the dwarfs we seen in the side-show, the circus, and elsewhere.

But, aside from these individuals, who represent so many oddities of nature, there are other features to be seen in the side-show—sword swallows, fire-eaters, men who dance upon broken glass, snake charmers, and a host of others who seem to defy nature and set her laws at naught. A brief description of some of the most noteworthy of these should be of interest; and I shall accordingly explain, in the pages which follow, how these various “marvels” are performed, and we can then see how far the laws of nature are “subverted” during the course of their performances.

Let us begin with *sword-swallowing*. It must

be admitted that, in the majority of cases, there is almost no trick about this performance at all; it is perfectly genuine—incredible as that statement may appear. Doubtless, in some cases, a trick sword is used—in which the blade collapses, and gradually enters the handle of the sword—but in the majority of cases the feat is genuine. The throat is toughened by continued practice, and by rubbing and gargling with various chemicals to toughen the skin and membrane; then the head is thrown as far back as possible and the sword gradually introduced into the gullet. A blunt, steel sword, about twelve or eighteen inches in length is procured, measuring about one-half inch in breadth, and a sixteenth of an inch in thickness. Just before the performance, it is rubbed with a piece of flannel,—this serving the double purpose of cleaning the blade and slightly warming it. The blade is then carefully lowered into the throat. Hindu jugglers sometimes swallow chains, and one can hear them clanking in their insides.

When the head is thrown back in this manner, there is a straight passage for the sword, as far down as the stomach, and there is nothing miraculous in the fact that it is swallowed. The only difficulty, at first, lies in overcoming the tendency to "gag," or become sick as the blade is introduced. It is the same sort of feeling as when introducing the rubber tube of a stomach-pump. Once this is overcome, however, the rest of the performance is relatively simple.

DANCING ON BROKEN GLASS

One very wonderful trick, sometimes witnessed, is this: The performer breaks a number of bottles with a hammer, scattering the pieces of glass about on the wooden floor upon which he is to dance. When he has broken several bottles in this manner, he suddenly jumps into the middle of the mound of glass, and begins to dance and leap upon it. Apparently, his feet must be cut to pieces; but as a matter-of-fact he comes out quite unscathed.

In order to perform this test, the juggler procures a shallow box, about four feet square, and from three to six inches deep. He then breaks up a number of *thick* glass bottles, and breaks these up into *small* pieces. He then goes over the edges of these pieces and rounds them off with a file. Then, with the aid of a blowpipe, the edges of the glass are smoothed over, until there are no sharp edges left. The glass is then emptied into the box, and banked-up, mostly in the center. When the bottles are broken before the spectators' eyes, these freshly-broken, sharp pieces are scattered around the *edges* of the box, and the performer takes good care that none of these pieces find their way into the center. The performer has previously prepared the soles of his feet with resin, rubbing it in thickly; and, what with this, and the previous preparation of the glass, it is no very difficult feat to dance upon it without receiving any dangerous injury.

THE LADDER OF SWORDS

Closely allied to the above exhibition is one

10. SIDE-SHOW TRICKS EXPLAINED

in which the performer (usually a Japanese) walks upon a number of sharp swords, generally arranged to form a sort of ladder—the sharp or cutting edges being upward—and for that reason it has earned for itself the name of “the ladder of swords.”

The chief factor about this trick is the following: Sharp edges of any sort very rarely cut so long as the material to be cut is not *drawn* across its surface, but is merely pressed against the cutting edge. Accordingly, if we have a man with peculiarly tough feet, and train him to walk upon sharp edges, he can do so after a time, without cutting his feet. So long as the swords are stepped on carefully, and the sword-walker takes care never to draw his foot along the edge of the sword, he is practically safe from cuts.

He prepares himself for the test in the following manner: He gets a piece of iron rod, and practices standing on this rod many times daily. When he has attained comparative freedom from pain, when standing on the rod, he sharpens it somewhat, by filing off the edges, and making the rod assume the shape of a sword-blade. After practicing this for a number of days, he sharpens the rod still more, and so on until it is practically as sharp as a blunt sword. He then begins to practice with the sword itself, and sharpens the sword more and more as he goes along. He also takes other measures to harden and toughen his feet as much as possible—walking with bare feet, rubbing the soles of the feet with resin, etc. Under

these conditions, it is almost impossible for the performer to cut himself.

"THE HUMAN PIN CUSHION"

There is a side-show act known as "the human pin cushion," which always arouses a great deal of interest and speculation. The performer runs pins into himself—in all parts of his body—where they are seen sticking out of him at various angles—being apparently embedded more or less their entire length. The performer then borrows a lady's gold brooch, and allows any one in the audience to stick the pin into him—offering his breast for that purpose. He then sticks pins through his ears, a needle through his arm, and a knitting needle through his leg, and every one can see them sticking out in various directions. They are finally extracted, and the performer then makes his bow, and retires.

That is how the feat appears to the audience. Now for the explanation. Instead of *real* pins and needles being used, in the first instance, the performer has prepared a number of small pieces of wire, cut into various lengths, exactly resembling pins and needles, or portions of them. When any one of these is inserted into the flesh ever so slightly, it gives the appearance of being embedded some distance, and a number of these may be left, sticking into various parts of the body. When this part of the performance is finished, the performer extracts all his bits of wire, and borrows a gold brooch pin. There is no direct trickery about

this part of the performance, very often, as the pin is really inserted. But the skin is treated with cocaine just before the performance, so that there is no sense of pain; but many performers do not bother with this, as but little sensation is experienced if the flesh be lifted up, before the pin is inserted. For the concluding part of the performance, a little more preparation is required. A doctor is visited, and he pierces the ears, arm and leg of the future performer. He then inserts pieces of gold wire into the punctures, and allows the wounds to heal with the wire still in place. The result is that small holes are permanently left in the flesh. It is into these holes that the pins, needles and knitting-needle are inserted. Well performed, this is quite a clever and sensational feat.

A few words might be said here regarding the performances of Rahman Bey, Hamid Bey, and similar performers, who also allow the flesh to be pierced by long hat pins. These are inserted in the arms, breast, through the cheeks, etc. Having witnessed these demonstrations many times, and having had occasion to examine the skin before the pins were inserted, I can assure the reader that no previous preparation of the skin is resorted to; and the most remarkable part of the performance is that these wounds will bleed, or will not bleed, at request. If the audience prefers to see blood, they will bleed; if not, not a drop issues from the wound, when the pin is extracted. I have seen this many times, and know it to be a fact. This has been demon-

strated before medical committees in this country and in Europe, on numerous occasions.

FIRE EATING

We now come to fire-eating performances, in which the performer handles blazing coals, drinks boiling liquid, holds molten lead in his mouth, and in other ways proves that fire, in any shape or form, cannot harm him. Needless to say, the majority of such performances are trickery, and I shall describe and explain the methods that are employed in order to effect these apparent marvels.*

One of the most popular of these tricks is the one in which the performer places large wads of cotton into his mouth, chewing them up until it would seem that he had eaten a bushel of the material. He then begins to blow smoke from his mouth, and a number of sparks and much smoke is seen to issue for no assignable cause.

In order to accomplish this, the performer chews up the cotton first introduced into a small wad, and, in the act of placing the next handful into his mouth, he extracts the one first introduced, and so never has more in his mouth at one time than the one handful. When the proper time has arrived, the performer introduces the wad of cotton which contains a piece of punk (lighted). This smoulders, and tends to set the cotton on fire. The smoke and sparks are due to this cause. As soon as

* I should advise the amateur, however, *not* to attempt any of the feats himself—safe as they are said to be.

the cotton begins to catch fire, the mouth is tightly closed, and the fire is "dampened" sufficiently to prevent it from actually bursting into flame. As it would be extinguished very soon, if the mouth were kept tightly closed, it is soon opened again, and the performance gone through once more. This is repeated until the spectators have had enough, or until the punk is all consumed.

"THE LIVING GAS JET"

Another "act" closely akin to the above is that known as "the living gas jet." In this case, the performer shows his mouth empty, then takes a lighted candle, and holds it about six inches in front of his mouth. He then blows upon the flame of the candle, when his breath is seen to take fire and burn brightly—a fiery stream issuing from his mouth. This is a very puzzling performance, when seen for the first time, yet the explanation is, as usual, simplicity itself.

The performer has a small sponge, which he has saturated with gasoline, and has secreted this about his body. He introduces this sponge into his mouth, in the act of wiping it with his pocket handkerchief, just after showing it empty. The sponge is saturated with the gasoline. Now, when the performer blows upon the lighted candle, his breath will take fire (owing to the fact that it is saturated with the fumes) and burn brightly. He must be very careful to close the lips *tightly*, however, as soon as he ceases blowing,—otherwise the flame will enter his mouth, and he will get badly burned.

DRINKING MOLTEN LEAD

There is the trick of apparently drinking molten lead with impunity. The "lead" is poured into the performer's mouth, who retains it until it is cooled, then ejects it in front of the spectators—thus showing them there is no "trickery."

For this performance the juggler has prepared a mixture of metals as follows: bismuth, 5 ozs.; lead, 3 ozs.; block tin, 2 ozs. These are melted together in a ladle. They are then poured into a spoon, and thence into the mouth. The secret, such as it is, lies in the fact that this particular mixture will melt in boiling water; it requires no very great heat to melt it. As soon as melted, it is poured into the spoon, which serves to cool it still further; and from the spoon it is no very difficult task to take the mixture into the mouth. The moisture of the mouth will serve to cool the mass still further. As soon as the mixture is cooled, i. e., when it is quite solid, it is ejected from the mouth, and the spectator is asked to come upon the platform and see whether or not the mixture is "hot." He of course asserts that it is—since liquids and solids may be held in the mouth, and even swallowed with impunity, which are far too hot to be handled with comfort—a fact known to but few persons.

DRINKING "BURNING OIL"

There is the trick, again, of drinking "burning oil." The performer fills a large iron spoon with oil, and lights it before the eyes of the

spectators. He then takes a smaller iron spoon, and dips it into the larger one, bringing it out, full of blazing oil. He places this directly into his mouth, and appears to swallow it down. He repeats this several times, until the oil is all swallowed—which fact the performer demonstrates by turning the original spoon upside down. It is then seen to be empty.

The pouring of the oil into the first spoon and the lighting of it are perfectly genuine. When the performer pretends to dip the smaller spoon into the larger one, however, he does not do so in reality, but only wets the spoon, and brings it away slightly moist, with the oil clinging to the spoon blazing. At the moment of raising this spoon to the mouth, the performer blows on the flame, and so extinguishes it. This is repeated several times. When all this performance has been gone through, the oil in the original (large) spoon will have burned itself out, so that the performer is now free to turn this spoon upside down.

The trick is often seen in which the performer places together two clay pipes—just shown empty—and proceeds to blow smoke from his mouth immediately. He shows the pipes empty whenever desired and as often as desired, yet, immediately he places the two pipes together again, he proceeds to puff smoke from his mouth.

The trick, in this case, is a chemical one, and depends upon the preparation of the clay pipes. In one is placed (just before the "act" is exhibited) a few drops of pure muriatic acid,

and in the other a concentrated solution of ammonia. When the bowls of the two pipes are placed together, clouds of smoke are formed, which the performer proceeds to puff out of his mouth. This trick is used by conjurors, and is the basis of one or two good illusions.

BITING RED HOT IRON

There are several feats which are performed by professional fire eaters which are somewhat dangerous, and consist more in hardihood or a sound constitution than in any trickery. The feat known as "biting off a piece of red hot iron" is one of these. The iron is heated red hot, and the performer then places one end of this rod or bar in his mouth, and breaks off the rest. The only trick about the performance is that the bar has been filed to an extreme thinness in one spot, so that it will break off very easily; but the grasping of the red hot iron in the teeth, and holding it there while the bar is bent—there is no trickery about that. Great care must be taken, while performing this trick, that no part of the iron touches the lips or tongue.

Another feat of a somewhat similar type is the following: A tablespoonful of alcohol is poured into a saucer, and several raisins are thrown into it. The alcohol is lighted. The performer then proceeds to eat the raisins with a fork. Again, there is no actual trick connected with the performance, and he really swallows the raisins.

Sometimes the performer undertakes to drink

boiling oil or boiling liquid of any character. He heats the liquid in a tin cup, over a fire, and the spectators can see the steam issuing from the top of the cup. When it boils, the performer lifts the cup to his mouth, and drains it, showing it is empty by holding the cup upside down.

In this case, the performer has a cup provided with a double bottom. A small opening has been cut in one side, through which liquids pass and repass into the lower compartment. When any liquid is poured into the cup, therefore, it runs into this lower compartment, and is heated within it. When one liquid is boiling, and the performer wishes to show it is burning, he tips up the cup with the side containing the slit or opening beneath, and the contained liquid is then allowed to run into the upper compartment, and so out of the cup. When he wishes to "drink" the liquid, he turns the cup upside down, but is careful to see that the side of the opening is now at the *top* of the cup, and pretends to drink—going through the process of swallowing, etc. He can then almost completely invert the cup—apparently showing it empty—for so long as the slit-side is uppermost no liquid can escape.

Among other feats performed by "fire kings" are the following: "Sealing wax" is melted and allowed to fall upon the tongue. It is not really sealing wax that is used, but a preparation resembling it, which melts at a low temperature. The moisture of the tongue will prevent the wax from burning it for the first few seconds it is allowed to rest upon it. Some

performers go through the act of apparently eating burning coals. The "coals" in this case are pieces of burn cotton, placed in a saucer, and saturated with alcohol. When lighted they will, at a distance, look like blazing coals, and the performer proceeds to eat them with a fork. As soon as they are in the mouth, they will be extinguished.

It is asserted that some performers eat coals of fire out of a blazing furnace. This is accomplished (I am informed) in the following way: A hot charcoal fire is made in the furnace. Just before commencing the act, three or four pieces of soft pine are thrown into the fire, and when they are burned "to a coal" they cannot be distinguished from charcoal except to the touch, when a fork is inserted into them. These will be soft, and the real charcoal will be hard and brittle. It is asserted that these coals will not burn, when placed in the mouth. This was told me by a practical fire-eater.

FIRE FIGHTING MOUTH WASHES

For all these tricks, it will be observed, a tough mouth is required, and performers who make their living at fire-eating will frequently suffer much without showing any signs of pain. Their living depends upon it, and they are frequently burned quite badly. But there are various artifices which tend to make their performances easier and safer. One of these is to prepare the mouth by washing it out with the following preparation: One ounce of powdered alum, one ounce bicarbonate of soda, one

ounce castile soap, one ounce pure water. Mix together until well dissolved, and add one pint of strong vinegar; let this stand forty-eight hours. The mouth is then rinsed with this preparation several times, until a good coating is formed in the mouth—when many of the feats above described may be performed with perfect impunity.

There are other preparations which may be used for the same purpose. For example:

Dissolve one-half ounce of camphor in two ounces of aqua vitae; add one ounce of quicksilver, and one ounce of liquid stryax, which is the product of the myrrh, and which prevents the camphor from igniting. Shake and mix well together. Bathe the inside of the hand and fingers with this preparation, allowing it to dry in, and you can handle a hot lamp chimney and hold your fingers in the blaze without any bad effects.

If it is desired to hold a handkerchief over a flame, without burning it, or to pass the hair through the fire without singeing it, all the medium has to do is to soak the hair or the handkerchief in a solution made in the following manner: Fill a teacup with water, and in this dissolve all the salt the water will contain. In another cup dissolve a tablespoonful of soda—in warm water. Now pour the two solutions together, and mix them thoroughly. When this is done the hair, the handkerchief, or whatever article it is proposed to pass through the flame, is soaked in this mixture. Allow each article to dry thoroughly. They may now be passed through the fire uninjured.

It is said that articles soaked in alum water are fire-proof to a certain extent. It has also been asserted that, by rubbing the soles of the feet with a preparation of salt water and powdered red stone (the proportion being two ounces of red stone to a cupful of brine) several steps may be taken over red-hot iron, without injury.

Blazing coal may also be imitated by a piece of spongy platinum, held in the hand, upon which a stream of hydrogen gas is allowed to play. The platinum will then become incandescent, and will look from a distance like a red hot coal. The hydrogen is supplied through a tube, passing down the performer's coat-sleeve, and terminating in a gas bag, concealed beneath the coat.

MISCELLANEOUS TRICKS

So much for fire tricks which may be seen in the side-show of a circus or elsewhere. Now let us consider some of the other sights, and see how far trickery enters into the case, and in what it probably consists. There are various "freaks" which we sometimes see—among them, and one of the most interesting, being the girl whose hair stands straight up, like a corkscrew. This is not natural, and is made to stand up in the following way: The hair is soaked in stale lager beer for some time, and is then done up in leads, while still wet. These leads are left on for three days, but during that time the hair is taken down and soaked twice a day. At the end of the three days the leads are carefully removed, and the hair

combed upwards, when it will be found to stand straight up, and be long and wavy.

Then there is the "three-legged lady." A woman sitting on a chair is seen to possess three legs—any of which she can use and move at will—thus apparently proving that they are all directly under her will and volition. The secret consists in the fact that a *second* woman is hidden behind the first one's chair, and slides her leg along a groove in the seat of the chair under the first (visible) woman. In this manner three legs are brought into view—the second woman's body being hidden behind the first woman's chair.

Occasionally we see illusions where only the head or the head and shoulders (bust) of a woman are seen "suspended in space," or resting upon a board, a bunch of flowers, etc. In most of these cases the secret consists in the fact that a *mirror* is so arranged as to reflect the wall or the floor of the small room in which the woman is placed, and gives the impression that the rear wall is visible, while, as a matter-of-fact, only the reflection of the walls or floor is seen. In such cases, the woman posing for the "act" generally wears a false bust or body-front, which goes down to the board on which she apparently rests,—allowing her body to slope away at a convenient angle toward the rear. In some cases the illusion is effected by means of black draperies and bright lights, which shine directly into the spectators' faces, and render it almost impossible for them to see the woman's body—which

is also clothed in black. Sometimes the body is supported on a board, which extends backwards from the spot where the head appears. In such cases a cane or stick may be passed under the head,—thus showing, apparently, that no body is present beneath the head which is seen. Sometimes, again, the bust is seen swinging from a trapeze, all sides of which may be seen free from the floor as it swings to and fro. In this case the lower part of the assistant's body is doubled-up and tucked into a very small, flat space about two feet or less square and six inches-deep. This is concealed by long fringes and, being so shallow, gives the impression that nothing could be concealed in so small a space. As this position is very confining, the assistant must be released every few minutes and permitted to walk about.

FEATS OF STRENGTH

In every generation there are to be found a number of "strong men" who perform remarkable feats, such as breaking horseshoes, bending coins with the fingers, tearing into two pieces one or more packs of cards, crumpling pewter plates and dishes, weight lifting, etc. While the majority of these tests are genuine, and depend upon actual strength for their accomplishment, a few of them may at times be faked, thus giving the impression that the performance is really more miraculous than it really is. Thus, the horseshoe employed may be filed across to some extent, leaving a weak spot; and the same is done with one link of a

chain, which is broken on the arm. Tearing a pack of cards in halves does not require great strength if the deck is stacked in a somewhat slanting position, so that each card slightly overlaps the one above it. When more than one pack is employed, however, the feat becomes increasingly difficult. The chief difficulty consists in retaining a firm grip on the cards. The writer has seen Sandow tear three packs in this manner, all at once—a performance requiring great strength. A thick book—such as the New York telephone book—may be torn in two without much effort, by one possessing fair strength in the hands and arms. The trick, in this case, consists in slightly bending the book in the middle and *breaking* it, as it were, before beginning to tear. Once the tear is started, it is not very difficult to complete it.

In addition to these feats of strength, however, which have been exhibited upon the stage and elsewhere, from time to time, there have also been shown feats of an apparently “miraculous” nature, wherein a young woman of slight physique is enabled to overcome the combined strength of several powerful men, selected from the audience. These men are not confederates, as many think, but actual volunteers. Yet the slim woman on the stage is able to frustrate them and to prove herself more powerful (apparently) than several men combined. The performances given by Miss Annie Abbott and Lulu Hurst, “The Georgia Magnet,” were of this nature. I shall briefly describe their performances, afterwards ex-

plaining precisely how their tricks were performed.

(1) A man holds a chair firmly against his chest and is then pushed about by the operator, who appears to exert very little force on the chair.

This experiment is easily repeated by anybody, and the subject of it is usually surprised at the apparent strength of the person operating. The right hand of the operator need exert no force at all, and it is to this hand that attention is directed; force is exerted by the left hand near the chest of the assistant, and always in an unexpected direction, first pushing and then pulling, or *vice versa*. It is the unexpected and sudden variation of the force which throws the assistant off his balance, especially if he has strongly braced himself to meet and oppose a force in the wrong direction.

(2) The operator stands on one foot holding a billiard cue, while a tall, strong man is then asked to push her backwards by steady pressure on the cue, and falls.

To succeed with this experiment the operator must be short and strong in arms. When a tall person is pushing against a short person he is pushing largely downwards, and by standing on a heel the body of the short person can become a strut almost in the direction of the force. If she can then maintain her arms rigid there is no chance of pushing her backwards. (Untimely and unexpected pushes are not permitted.)

(3) She holds a billiard cue in a slanting,

nearly vertical position, and asks someone to force its point to the ground by sliding it along her open palms.

This experiment can be repeated by any one with fairly strong arms. If the operator can get an energetic person to push vigorously the friction of the open palms is sufficient to prevent the cue from sliding, and the operator presses *outward* firmly—that is, at right angles to the direction at which pressure is being applied. The result is that the cue cannot be forced to the floor.

(4) She presents her elbows to a person standing behind her, and requests to be lifted by them. Sometimes she can be lifted, sometimes she cannot.

This is a well-known experiment, and certainly baffling to the spectators. The performer stands erect, arms bent at the elbows, hands near the chest. A strong man is then asked to place his hands under the elbows, and lift the subject from the floor. Explanations of this trick vary, though it doubtless depends upon a system of leverages and simple mechanical principles. According to Sir Oliver Lodge: "If the operator holds her elbows well back the lifting can be done, but if she draws them forward even slightly the lifting cannot be done. I conjecture that a man with extra long feet, and stiffly soled flat boots, and short fore-arms, would have an advantage in this mode of lifting, and might be able to succeed in spite of the awkward position of the elbows. The lifting can always be done if the elbows are forcibly drawn back first,—but this brings

the dress and body into contact, and this is not considered fair . . ." (*Proceedings S. P. R.*, Vol. XI, pp. 220-21.) On the other hand, Mr. Magkelyne maintained (*The Supernatural?* pp. 276-80) that lifting was easy when the arms were well forward, and impossible when they were allowed to swing backward. In the book entitled "Lulu Hurst, The Georgia Wonder," which claims to be written by herself, and expose all her secrets, this particular feat and its explanation are carefully omitted. Doubtless the performer suited her actions in accordance with the particular situation, and utilized various methods on various occasions. It must be remembered that a human being is not like a dead weight, but can move about freely, and shift the weight from one place to another, as desired. The reader may be interested in experimenting along these lines himself.

(5) A billiard cue standing vertically on the ground is to be pressed down by the hands of a number of persons placed on the top of it, while a man who has clambered up and perched himself there is seated upon these hands; the operator then easily raises the cue, grasping it anywhere with one hand.

This is a sort of psychological experiment. If the reader pictures himself as one of those with hands on top of and pressing down the cue, he will realize that the consequences of a break in the cue appeal forcibly to his imagination, and it is not improbable that without knowing it he will assist in sustaining the weight of the seated person, rather than pressing down. In other words, all the arms form

a sort of arch, pressing against one another, and these arched arms support the weight of the seated person, and each effectually prevents the other from exerting any downward pressure. The result is that the performer can raise the cue from the floor without difficulty.

(6) She stands with her hands lightly against a wall, and then asks several men to push her to the wall by joint pressure on her back. They are unable to do so.

The pushing force of a man is less than he thinks, and the purchase given the performer by her pressure on the wall is precisely in the right direction, and is sufficient to balance all the force exerted. The line of men all exert pressure at different times and in different directions,—thus offsetting one another. The contact with the wall is made chiefly by the wrists, and the fingers can be raised, from time to time, if desired—thus showing that “no effort” is being made to resist the pressure from behind.

JUGGLING TRICKS

It may now interest the reader to learn the secrets of a few juggling feats which depend upon trick apparatus. A large number of the feats of the professional juggler are of course perfectly genuine, and depend upon the performer's dexterity; but some of the more remarkable are due to cleverly arranged devices, or to trick apparatus. A few of these I shall briefly describe.

First, there is the time-honored dodge of

"weighting" certain articles in particular spots or places, so that, whenever they are thrown into the air, no matter at what angle, they will always descend weighted-side down. Chief among these are: knives, bottles, hats, Indian clubs, etc. In the case of silk hats, a rounded leaden weight is fastened to the inner lining of the crown of the hat. This will be found greatly to facilitate matters. A trick cigar is also used by most jugglers.

The performer occasionally exhibits what appears to be a remarkable feat of dexterity. He allows an ordinary egg to be examined, also a straw, such as those used at soda fountains. He then takes the egg and, apparently with great effort, balances the egg on the end of the straw. On removing his hand, the egg is seen to be maintained in that position.

This clever sleight is affected by means of a small piece of apparatus, which the audience never sees. The egg and the straw are perfectly genuine—though the egg is often blown, to reduce the weight. In such cases, the performer usually substitutes the blown egg for the original one by palming.

Secreted in his hand the performer has hidden a small cup-shaped piece of apparatus.

In the act of picking up the egg, its lower end is slipped into the little cup, while the short spike is inserted into the end of the straw. (All this is done under cover of the fingers.) If the egg be held *below* the eye-level of the spectators, the cup cannot be seen, and the feat

has every appearance of being perfectly genuine.

The following is a clever trick, sometimes seen:

The performer exhibits a sword, which may be examined. He now borrows a coin and, placing the coin upon its edge on the sword, he causes it to run up and down the blade without falling off. The explanation is that the borrowed coin is substituted at a convenient moment for another which has its edge "doctored." A deep groove is cut into the edge all the way round, and this groove fits over the edge of the sword. In this way there is little difficulty in balancing the coin, and causing it to run to and fro on the edge.

Eggs and balls are sometimes seen to run along the upper surface of a borrowed cane. This feat looks extremely difficult, but depends upon a simple device, which is hidden from the audience. To the center of the egg or ball is attached a piece of bent wire, to the lower end of which is fastened a leaden weight. When the ball is placed on the top of the stick, the weight falls just behind and slightly below the stick, and serves to keep it in position. With this device the ball is securely balanced upon the upper edge of the stick, and will run to and fro freely, without falling off.

Sometimes the apparently miraculous feat is seen of balancing two or even three billiard balls upon one another,—the lowest one resting on the butt of the cue. There are several ways of accomplishing this feat, two of the simplest being the following:

(1) The balls are hollow and "weighted" inside with shot. Top and bottom of both balls are slightly flattened, and when these flat surfaces are juxtaposed the balls may be balanced upon one another with comparative ease. The slightest movement, such as clapping the hands, will however dislodge the balls, which thereupon fall and are caught by the performer.

(2) The balls are prepared by inserting a very fine needle point in one side and boring an extremely fine hole in the opposite side of the ball. When the needle points are inserted into the small holes, the balls stay in their proper position, if carefully balanced.

When several objects are placed or balanced one upon another, these are almost invariably joined together by some such means. A fine needle point will project from an object, and fit into a small hole in the object next it. When playing cards are used, as is sometimes the case, these are made of thin sheet steel, japanned, and have a small needle running diagonally from corner to corner. Upon this needle-point the object is balanced.

The following pretty illusion is sometimes seen: The performer borrows a handkerchief and a walking stick and, throwing the handkerchief into the air, he catches it on the point of the stick, and proceeds to spin the handkerchief round and round, which is seen to open out flat. Anyone else trying to do so, however, will find the feat quite impossible.

The trick consists in a false ferrule placed over the real ferrule on the borrowed cane, to which is fastened a short needle, projecting di-

rectly outwards. When the handkerchief is thrown into the air, it is caught upon the needle point, and it will be found possible to spin the handkerchief round and round at great speed, without coming off. This is done by means of a peculiar circular motion imparted *from the wrist*, the arm being kept stationary. The effect upon the audience is that the feat is genuine, but if any one tries to repeat it, he will find it quite impossible. Needless to say the performer removes and palms the trick ferrule before handing the cane back to its owner—or to anyone else who may desire to try the experiment.

A word in conclusion. It is not my intention, in this series of books, to "expose" any legitimate magical secrets, but merely to explain some of the methods employed by performers whose exhibitions have deceived many into the belief that they possess "supernatural" powers. That is quite a different matter. Armed with this information and advice, the reader will be enabled to detect trickery when it exists; but he will doubtless enjoy and be entertained by side-show performances just as much in the future as in the past, but from a different point of view.

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